

## **REMARKS**

### **I. Introduction**

With the cancellation herein without prejudice of claims 16 to 27 and 30 and the addition of claim 32, claims 28, 29, 31 and 32 are pending in the present application. In view of the foregoing amendments and the following remarks, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

Applicants note with appreciation the acknowledgment of the claim for foreign priority and the indication that all copies of the certified copies of the priority documents have been received.

Applicants thank the Examiner for considering the previously filed Information Disclosure Statement, PTO-1449 paper and cited references.

### **II. Objection to Title**

In response to the objection to the title, the title has been amended to obviate the present objection. Withdrawal of the present objection is therefore respectfully requested.

### **III. Objection to Claims 28 and 31**

Claim 28 and 31 were objected to based on certain alleged informalities. The Examiner will note that claim 28 has been amended herein without prejudice to change the second instance of "a pump" to --the pump-- and that claim 31 has been amended herein without prejudice to change "a cover plate" to --the cover plate--. Withdrawal of this objection is respectfully requested.

### **IV. Rejection of Claims 30 and 31 Under 35 U.S.C. § 112**

Claims 30 and 31 were rejected under 35 U.S.C. § 112, second paragraph as allegedly indefinite. Claim 30 has been canceled without prejudice herein, rendering moot the present objection with respect to claim 30. With respect to claim 31, while Applicants do not agree with the merits of this rejection, to facilitate matters, claim 31 has been amended herein without prejudice to include "to the second closing element." In view of the foregoing, it is respectfully submitted that the

present rejection has been obviated, and withdrawal of this rejection is therefore respectfully requested.

**V. Rejection of Claims 28 and 30 Under 35 U.S.C. § 102(b)**

Claims 28 and 30 were rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,096,388 (“Weinberg”). It is respectfully submitted that Weinberg does not anticipate the present claims as amended herein for at least the following reasons.

While Applicants respectfully disagree with the merits of these rejections, to facilitate matters, claim 30 has been canceled herein without prejudice thereby rendering moot the present rejection with respect to claim 30. Withdrawal of this rejection with respect to claim 30 is therefore respectfully requested.

Claim 28 has been amended herein without prejudice to recite, *inter alia*, that the micropump includes a pump diaphragm which is formed from a polysilicon layer, wherein the polysilicon layer has a lesser thickness in predetermined areas, the predetermined areas, including areas of at least one of the intake, the outlet, and the pump diaphragm; and wherein the polysilicon layer is at a distance from the base plate in the predetermined areas. Support for this amendment may be found, for example, on page 5, lines 20 to 23, of the Specification. By having a lesser thickness in predetermined areas, a different flexibility of the polysilicon layer is set in various areas, and an optimized polysilicon layer results.

Weinberg does not disclose, or even suggest, that a polysilicon layer has a lesser thickness in predetermined areas, the predetermined areas, including areas of at least one of the intake, the outlet, and the pump diaphragm; and wherein the polysilicon layer is at a distance from the base plate in the predetermined areas. Weinberg describes a microfabricated pump having a body (12) covered on a first surface (22) with a flexible layer (36) between cavities (28) and (30) of the channels (14) and (16). Nowhere does Weinberg mention a polysilicon layer having a varied thickness, with a lesser thickness in predetermined areas, the predetermined areas, including areas of at least one of the intake, the outlet, and the pump diaphragm; and wherein the polysilicon layer is at a distance from the base plate in the predetermined areas. As such, it is respectfully submitted that Weinberg does not

disclose, or even suggest, all of the features included in claim 28. Consequently, it is respectfully submitted that Weinberg does not anticipate claim 28.

In view of all of the foregoing, withdrawal of this rejection is respectfully requested.

#### **VI. Rejection of Claim 31 Under 35 U.S.C. § 103(a)**

Claim 31 was rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Weinberg and U.S. Patent No. 6,390,791 (“Maillefer et al.”). It is respectfully submitted that the combination of Weinberg and Maillefer et al. does not render unpatentable these claims for at least the following reasons.

Among the requirements for rendering a claim unpatentable under 35 U.S.C. § 103(a) is that all of the features of the claim must be disclosed or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974).

Claim 31 depends from claim 28 and therefore includes all of the features included in claim 28. As more fully set forth above, Weinberg does not disclose, or even suggest, all of the features included in claim 28. Maillefer et al. is not relied upon for disclosing or suggesting the features of claim 28 not disclosed or suggested by Weinstein. Indeed, it is respectfully submitted that Maillefer et al. does not disclose, or even suggest, the features included in claim 28 not disclosed or suggested by Weinberg. As such, it is respectfully submitted that the combination of Weinberg and Maillefer et al. does not render unpatentable claim 31, which depends from claim 28.

In view of all of the foregoing, withdrawal of this rejection is respectfully requested.

#### **VII. Rejection of Claims 28 to 31 Under 35 U.S.C. § 103(a)**

Claims 28 to 31 were rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of WO 01/90577 (“Van Lintel et al.”) and Weinberg. It is respectfully submitted that the combination of Van Lintel et al. and Weinberg does not render unpatentable these claims for at least the following reasons.

As discussed above, claim 28 has been amended without prejudice to recite, *inter alia*, that the micropump includes a pump diaphragm which is formed from a polysilicon layer, wherein the polysilicon layer has a lesser thickness in

predetermined areas, the predetermined areas, including areas of at least one of the intake, the outlet, and the pump diaphragm; and wherein the polysilicon layer is at a distance from the base plate in the predetermined areas.

As more fully set forth above, Weinberg does not disclose, or even suggest, all of the features included in claim 28. Van Lintel et al. is not relied upon for disclosing or suggesting the features of claim 28 not disclosed or suggested by Weinstein. Indeed, it is respectfully submitted that Van Lintel et al. does not disclose, or even suggest, the features included in claim 28 not disclosed or suggested by Weinberg.

Van Lintel et al. describe a micropump (500) forming a fluid-flow assembly integrating a glass closure wafer (20), a silicon layer (32), a pump chamber (504), and a silicon support wafer (36). Nowhere does Van Lintel et al. disclose a polysilicon layer having lesser thickness in predetermined areas, the predetermined areas, including areas of at least one of the intake, the outlet, and the pump diaphragm; and wherein the polysilicon layer is at a distance from the base plate in the predetermined areas. As such, it is respectfully submitted that the combination of Van Lintel et al. and Weinberg does not render unpatentable claim 28.

Consequently, it is respectfully submitted that the combination of Van Lintel et al. and Weinberg does not anticipate claims 29 and 31 which depend from claim 28 and therefore includes all of the features included in claim 28.

In view of all of the foregoing, withdrawal of this rejection is respectfully requested.

### **VIII. New Claim 32**

New claim 32 has been added herein. It is respectfully submitted that new claim 32 does not add any new matter and is fully supported by the present application, including the Specification. Since claim 32 depends from claim 28, it is respectfully submitted that claim 32 is patentable over the references relied upon for at least the reasons set forth above.

**IX. Conclusion**

It is therefore respectfully submitted that all of the presently pending claims are allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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